

# Real Estate Development with a Central Database

---

White Paper Year 2021

***metamagi*x.ICRS**  
Die Software für intelligentes Immobilienmanagement

# Content

Introduction	Project Concept
3	4
	4 Data Delivery
	5 System Components
	6 metamagix.ICRS Core System ME
	7 ICRS Development Management
	8 ICRS Document Management
	8 ICRS.mobile
Optional Modules	Operating Concept & Conclusion
9	11
9 ICRS Sales Pipeline	12 Server System & Client Requirements
10 ICRS Discounted Cash Flow Simulation (DCF) & NPV Calculation	12 Conclusion

# 1. Introduction

The use of **central databases** is becoming increasingly important for efficient real estate development. With metamagix.ICRS various **data sources** are **merged together** and the **development** and **sale** of projects are mapped in one platform. In addition, the program supports the management of Excel files. They are brought into a uniform format by ICRS and additionally secured on the server.

## Scenario

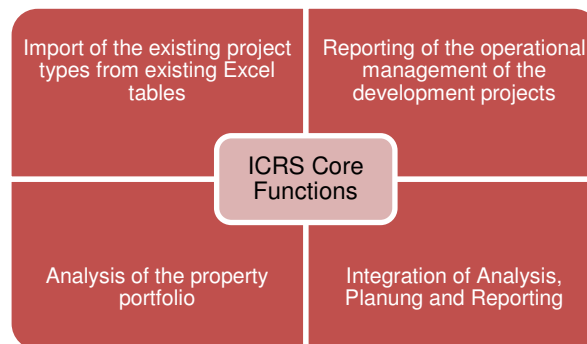
To illustrate an initial situation that asset/project manager are often confronted with, this white paper uses a fictitious sample company:

ABC Ltd. is a rapidly growing real estate company that handles a wide range of construction projects. The focus is on the development and sale of properties and apartments in the DACH region. In addition, there is a smaller hold portfolio, which will continue to grow in the coming years.

The daily work with the portfolio is to be made easier by a new and future-proof software. As a central platform, it combines the data of current construction projects with the information from construction department, the plots in the pipeline, the sales and the distributions. In addition to reporting, the software should also support operational processes.

This new platform should be ready for use quickly and can be expanded at any time with modules - e.g., in the direction of purchase management or cash flow calculation.

All required functional areas can be covered by standard modules in order to fully meet the requirements of ABC Ltd.



With the implementation of ICRS, ABC Ltd. receives a complete and adaptable data model for the portfolio **mapping** of the object, project and unit from the owning companies. The key features are:

- + Management of budgets and measures
- + Recording and tracking of investments at property level
- + Target / actual comparisons based on data from the construction department and accounting
- + Mapping of financing at property level
- + Recording of objects in various pipeline stages
- + Development and documentation of offered projects
- + Prospect management

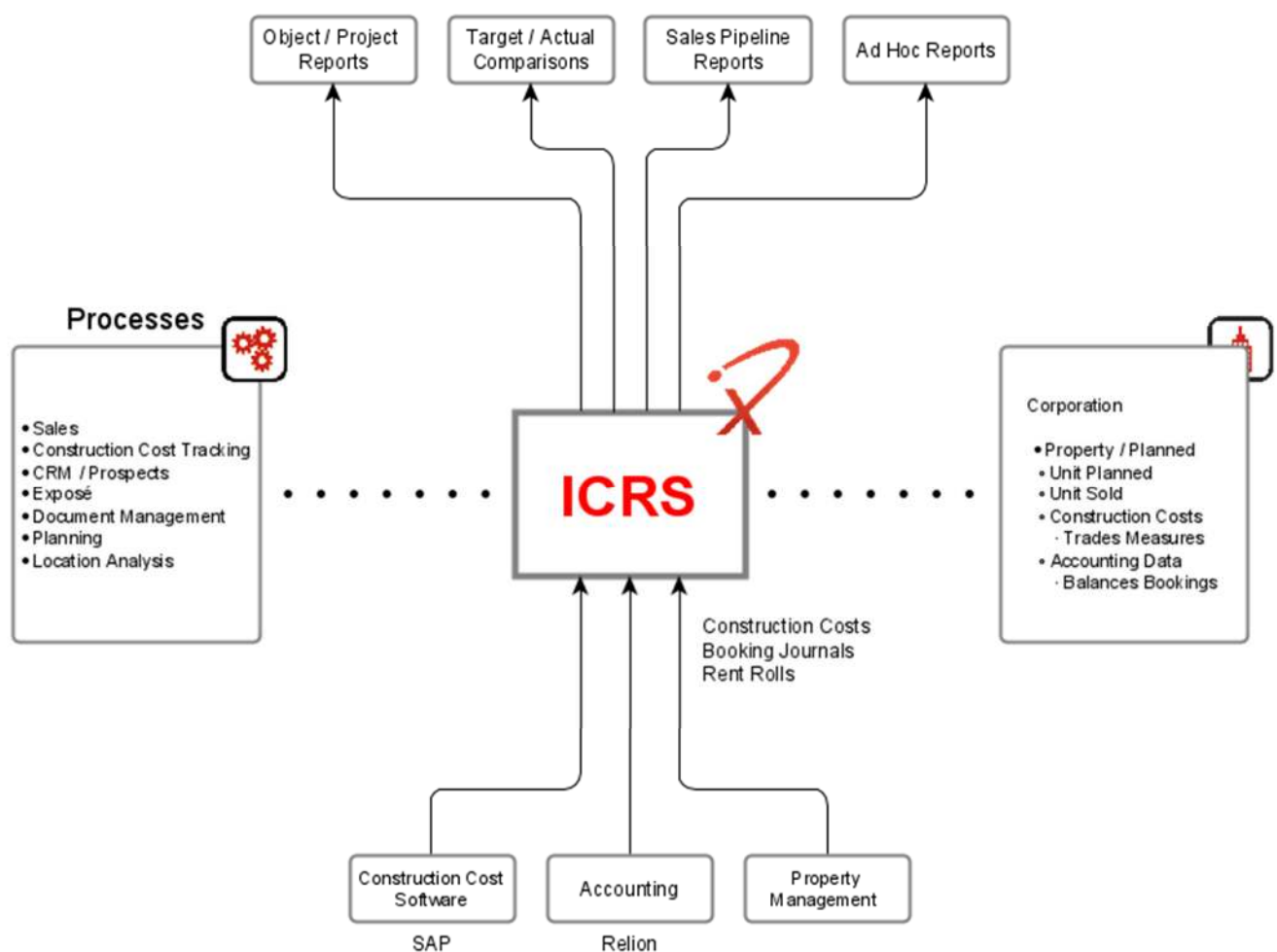
Transaction management is also supported for **analysis** of properties and rental data with **due diligence** checks and the compilation of **relevant data**.

## 2. Project concept

The following section takes a closer look at the functions of ICRS. First, it explains how the current data from construction cost software, property management and accounting are imported in ICRS. Then the individual system components are described. The following are recommendations for additional modules that support the tasks of an asset / project manager.

### 2.1. Data delivery

ICRS can be implemented without interfering with the existing system landscape (consisting of accounting and property management systems as well as programs for construction cost tracking) and is thus the ideal solution for the scenario in the ABC Ltd., which aims to analyze the accounting and construction cost data at short notice.



Import options exist in common formats such as Excel and CSV as well as for various systems such as Coor, ABK, BMD or SAP. The control is made easier by evaluations, automated alarms and target / actual comparisons.

The program can easily detect, format and integrate information from property management systems (for real estate and accounting data) or Excel files (for financial KPIs). From there, they can be converted into various file formats and transferred to other programs for further use.

In addition, information on processes and the owning companies can be entered in ICRS. Overall, a wide variety of reports can be also created automatically from this data and information base.

ABC GmbH currently has an internal construction department and two external general contractors, as well as 2 property managers for existing properties. The construction department plans in an internal system and delivers the data as an automated export to ICRS every night. The invoice approval for the general contractors and individual projects is carried out directly in the software. Construction projects in which ABC Ltd. only controls the general contractor are set up according to project phases and the partial invoices of the general contractor are released. The construction projects of the In-House construction department will continue to be planned and tracked in the existing construction cost tracking system; the data will be transferred to ICRS at night.

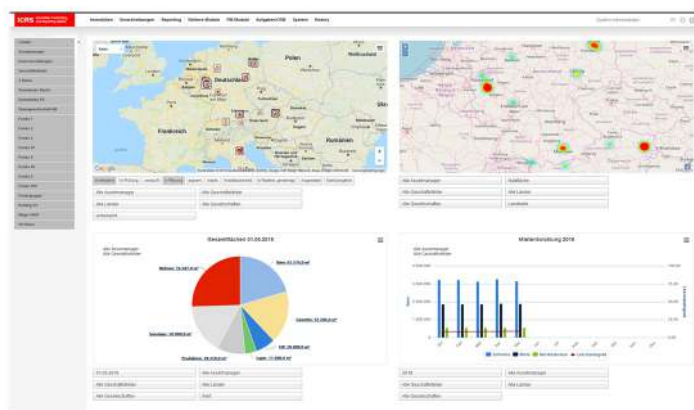
### Importing booking journals

The optional ICRS Planning and Controlling Module expands the possibilities for importing and evaluating booking journals and balance lists from several accounting systems of ABC Ltd.

When transferring to ICRS, advanced mapping of different systems of accounts is possible; Multiple accounting systems can be automatically merged into a single model. In addition, this module can also be used to import and evaluate open items in ICRS.

## 2.2. Components

The real estate management system metamagix.ICRS performs a variety of tasks, which must be fulfilled in everyday portfolio management. The following section discusses the basic features by ICRS. The document management system of the program and the accessibility via smartphones are highlighted.



### metamagix.ICRS Dashboard

Already on the start page, users get an overview of the portfolio, based on graphics and key figures. Users can choose which dashboards exactly to display in a few clicks.

### 2.2.1. metamagix.ICRS Core System ME

The metamagix.ICRS ME package includes extensive functionalities in a compilation that is ideal for managing medium-sized real estate portfolios. Specifically, the metamagix.ICRS ME package offers the following services:

#### Flexible Web-interface

- + Customizable based on roles
- + Configurable system dashboard (Cockpit)
- + Complete & customizable data model for portfolio mapping including:
  - + Presentation of budgets and investments
  - + Mapping of financing at property and unit level
  - + Capture and track investments at property level
  - + Recording of objects in development as well as documentation of offered projects

#### Reporting

- + Excel-based standard reports  
(including property overview, portfolio overview and sales list)
- + Ad-Hoc reporting for flexible Excel analyzes
- + Portfolio and property level dashboard

#### Management

- + CRM module for the administration of companies and contact persons  
(management of contacts, tasks and notes directly with object and unit)
- + Document management system for storing contracts, offers, images, site plans and files for objects and units

The necessary data are uniformly combined with ICRS from all source systems in one solution. Our intelligent interface and the data hub have connectors to various source systems. (e.g., Excel, SAP, IGEL, Wodis, etc.)

The Startup System (ME) is suitable for portfolios with a range of up to:



20 Users



150 Objects and 6000 Units



8 Data Source Systems

#### Upgrade to Enterprise License

When using ICRS for larger portfolios and more users than defined for the ME package, an upgrade of the metamagix.ICRS ME license to an enterprise license is possible.

The enterprise version allows a higher number of users to and an unlimited portfolio size; furthermore, some modules such as Advanced Access Control and Audit are only available in the Enterprise version.

## 2.2.2. ICRS Development Management

ICRS offers ABC Ltd. the functions required to monitor a project – regardless of whether it is an individual allocation or in a scenario with general contractors – from the owner's point of view or set it up based on budgets and invoice approvals.

For this purpose, the data from different construction cost solutions or import files can be transferred to ICRS and summarized in reports together with the data for the planned rental or sale. However, individual assignments can also be carried out and special specifications can be documented.

When using the DCF or Planning & Controlling module, the costs calculated in development management can be used directly in planning and cash flow forecasts.

Bauprojekt Innenhof Bonn Phase 2 - Fonds 2 - Gewerbe

Baukosten

Schnellsuche nach Name: Standardsuche

23.05.2017

Kostenart	Projektname	Stichtag	verf. Mittel	Kum. Verf. Mittel	Schätzkosten
2.H.30 - Erdarbeiten	Innenhof Bonn Phase 2	23.05.2017	7.000,00 €	0,00 €	12.000,00 €
2.H.31 - Isolation	Innenhof Bonn Phase 2	23.05.2017	3.000,00 €	0,00 €	20.000,00 €
2.H.32 - Konstruktiver Stahlbau	Innenhof Bonn Phase 2				
2.H.32 - Mauerarbeiten	Innenhof Bonn Phase 2				
2.H.36 - Zimmermeisterarbeiten	Innenhof Bonn Phase 2				
3.T.96 - Aufzugsanlagen	Innenhof Bonn Phase 2				
4.H.24 - Fliesen-, Platten- und Mosaik	Innenhof Bonn Phase 2				
4.H.37 - Tischlerarbeiten	Innenhof Bonn Phase 2				
4.H.38 - Holz/Gelände	Innenhof Bonn Phase 2				
4.H.39 - Trockenbauarbeiten	Innenhof Bonn Phase 2				
4.H.52 - Fenster und Fenstertüren aus	Innenhof Bonn Phase 2				
4.H.53 - Fenster und Fenstertüren aus	Innenhof Bonn Phase 2				

Projektkalkulation Achenbach, Süß - Excel

6 Gesamtkalkulation Verkauf WE Wohnungseigentum

8 Immobilienankauf

9 Kaufpreis

10 GREST

11 Makler

12 Vertragsanfertigung, Treuhandschaft

13 Eintragungsgebühr

14 Finanzierungskosten Ankauf

15 nicht abzugsfähige Vorsteuer

16 Kaufpreis inkl. Nebenkosten

17

18 Investitionen

19 Teilungsplan, Lage- u. Höhenplan

20 Abbruch/Entsorgung

21 Rodung/Ersatzpflanzungen

22 Architekt Generalplanung inkl. Nutzwertgutachten

23 Schlepplückenuntersuchung, Brandschutzgutachten, Panifizierung, Sonstiges

24 Aufschließung (Strom, Wasser, Kanal, Gas/Fernwärme, TK, Sonstiges)

25 Planungskosten gesamt

Nettonutzfläche	1.040,00	€ 2.000	€ 2.080.000
Fläche Loggia	200,00	€ 500	€ 100.000
Fläche Balkon	0,00	€ 200	€ 0
Fläche Terrasse	290,00	€ 500	€ 145.000

Erstellt: Martin Müller, 11.04.2017 11:53  
Zuletzt bearbeitet: System Administrator, 23.05.2017 09:13  
ID:30271

### ICRS Development Management

*Plan, control and monitor your development projects directly in ICRS - whether for new sites or existing projects.*

#### Key Functions

Directly integrated in ICRS

Monitoring of budgets - etc. (Current status per trade, payment on account, forecast)

Planning of costs and income in one system

Integration with the DCF module for detailed automated planning

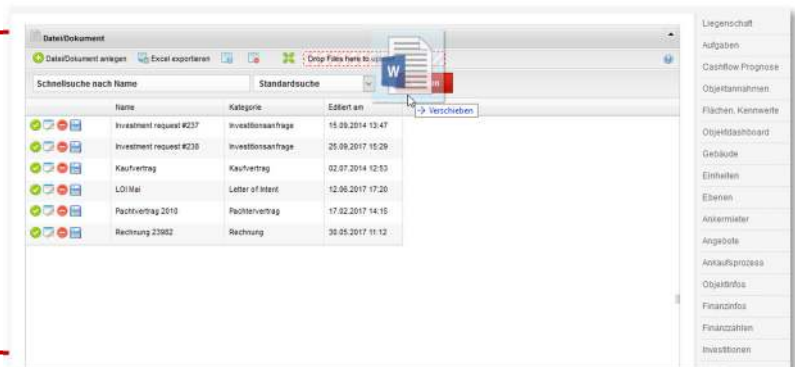
Easy import of construction management systems such as ABK or Coor

### 2.2.3. ICRS Document Management

The ICRS Document Management module allows all property-related documents to be stored directly in ICRS, fully integrated into the ICRS interface, including tagging and full text search. Any number of documents (contracts, plans, etc.) can be stored directly for the company, object, unit, contract and all other information managed in ICRS.

#### ICRS Document Management

*Clarity, customizability and uncomplicated application are the core ideas of ICRS. These also prevail in the integrated document management system.*



The main advantage here, compared to folder-based storage or other document management systems, is: ICRS thinks in terms of real estate, so documents can be found where they are logically assigned.

In addition to direct access to all documents in ICRS, this module can also be used to make search queries – from individual search terms to full-text searches – across all documents.

Documents can also be easily integrated into workflows and with all other modules (e.g., investment applications or auditing). These can be released via ICRS - freely configurable and multi-level.

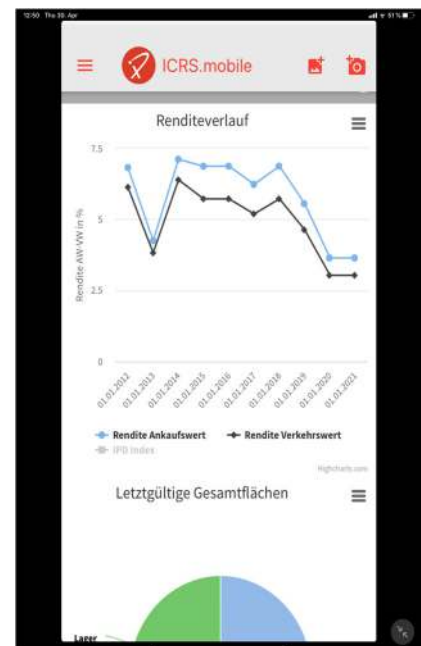
### 2.2.4. ICRS.mobile

With ICRS.mobile, the members of ABC Ltd. can put their portfolio in their pockets: All objects and key figures are available on the go as well as a current vacancy list.

Of course, the data is also graphically processed on the mobile phone and simple search functions can quickly find the right object even with large portfolios. The map automatically adapts to the location and the employees inside have the possibility to access the object images and upload new photos directly from the mobile phone in ICRS.

Tasks can also be processed on the go and ICRS.mobile can be quickly adapted to the personal wishes of ABC Ltd. ICRS.mobile is constantly developed by us and new functions are regularly added.

With the on-premise operation, access must be activated by the internal IT or VPN access must be made available.





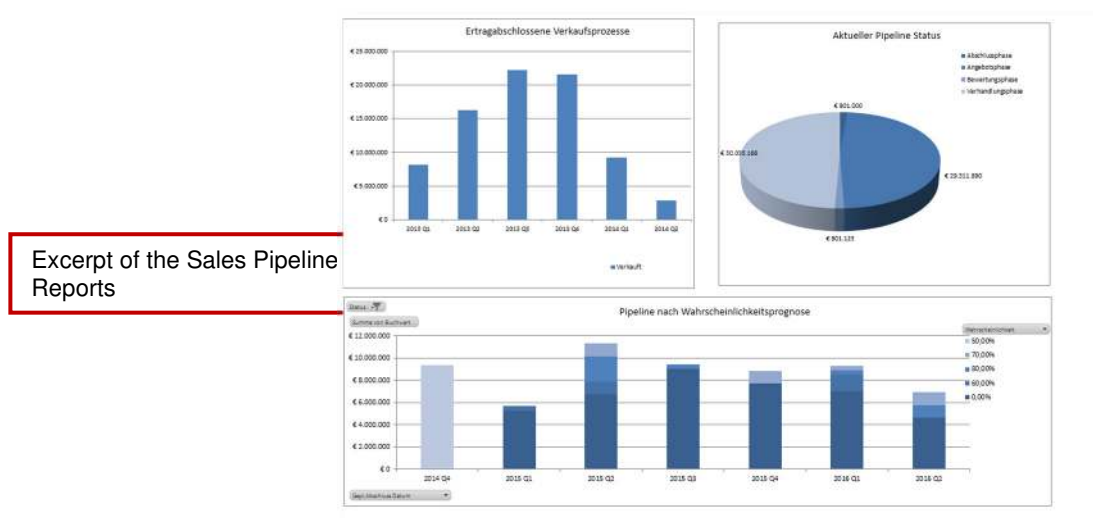
### 3. Optional modules

The metamagix.ICRS core system can be extended with various additional modules. Two modules, which are particularly suitable for real estate development, are presented here – the ICRS Sales Pipeline and the ICRS Discounted Cash Flow Simulation (DCF) & NPV calculation.

#### 3.1. ICRS Sales Pipeline

With the metamagix.ICRS Sales Pipeline, the employees of ABC Ltd. plan, control and document their sales processes in the portfolio management system.

The module is integrated directly into ICRS and allows to start sales processes for entire objects or units with one click. The core data for the object or, if applicable, the unit is also filled automatically. Current and historical processes are then also visible directly in the object or in the unit on a separate tab.



The processes themselves can be scheduled in time. In addition, the documentation of brokers, closing probabilities, approvals and offer phases is made possible. Milestones can be used to prepare and monitor important steps in detail and to plan cash flows. A detailed report allows analysis of the success of completed sales as well as a preview of the ongoing and planned processes.

#### Key Functions

Documentation and analysis of contact persons and submitted purchase offers

Tracking of the current status and planned timelines as well as cash flows

Evaluation of completed sales processes

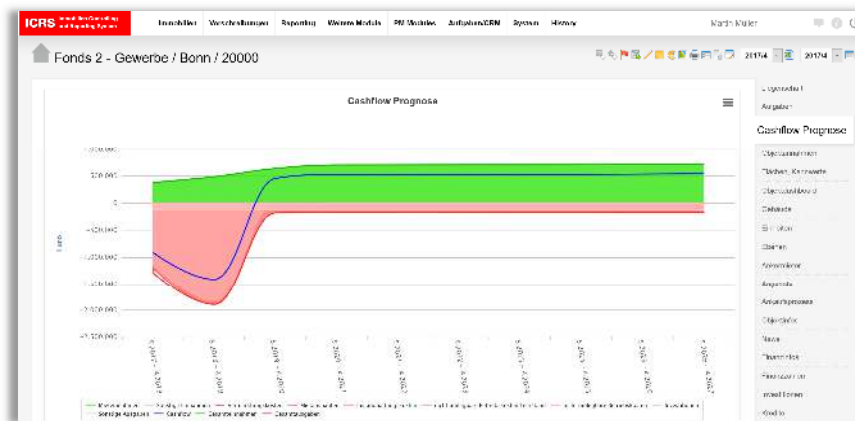
Forecasts on current and planned sales processes

Integration with planning

All functions at both object and unit level

### 3.2. ICRS Discounted Cash Flow Simulation (DCF) & NPV Calculation

This module allows a cashflow simulation, DCF and NPV-Calculation for existing objects, including the granular control of all scenario parameters up to each unit directly in the surface.



Excerpt of the Discounted Cash Flow Simulation

In addition, extensive analysis options are offered, including evaluation of the effects on companies and portfolios. This module thus provides an important basis for decision-making for asset management and the executive board.

The module allows the forecast of future rental cash flows based on the current occupancy and the contract data available in the system. The calculation is carried out individually for each unit and integrates the recorded investments and operating costs. Thus, no complex recording of planning data or estimates is necessary. The control of all scenario parameters takes place directly in Excel, which ensures maximum flexibility of the analyzes.

The inheritance of forecast assumptions allows a quick setup of the simulation model, which automatically calculates three scenarios. Model copies allow fast "What if?" evaluations.

The complete reporting and creation of individual reports takes place, as usual, in Excel. The module calculates three variants (Best Case, Base Case, Worst Case). These are used in combination with the real estate cash flows from the DCF module for comprehensive cash flow forecasts, property valuation as well as management of financing.

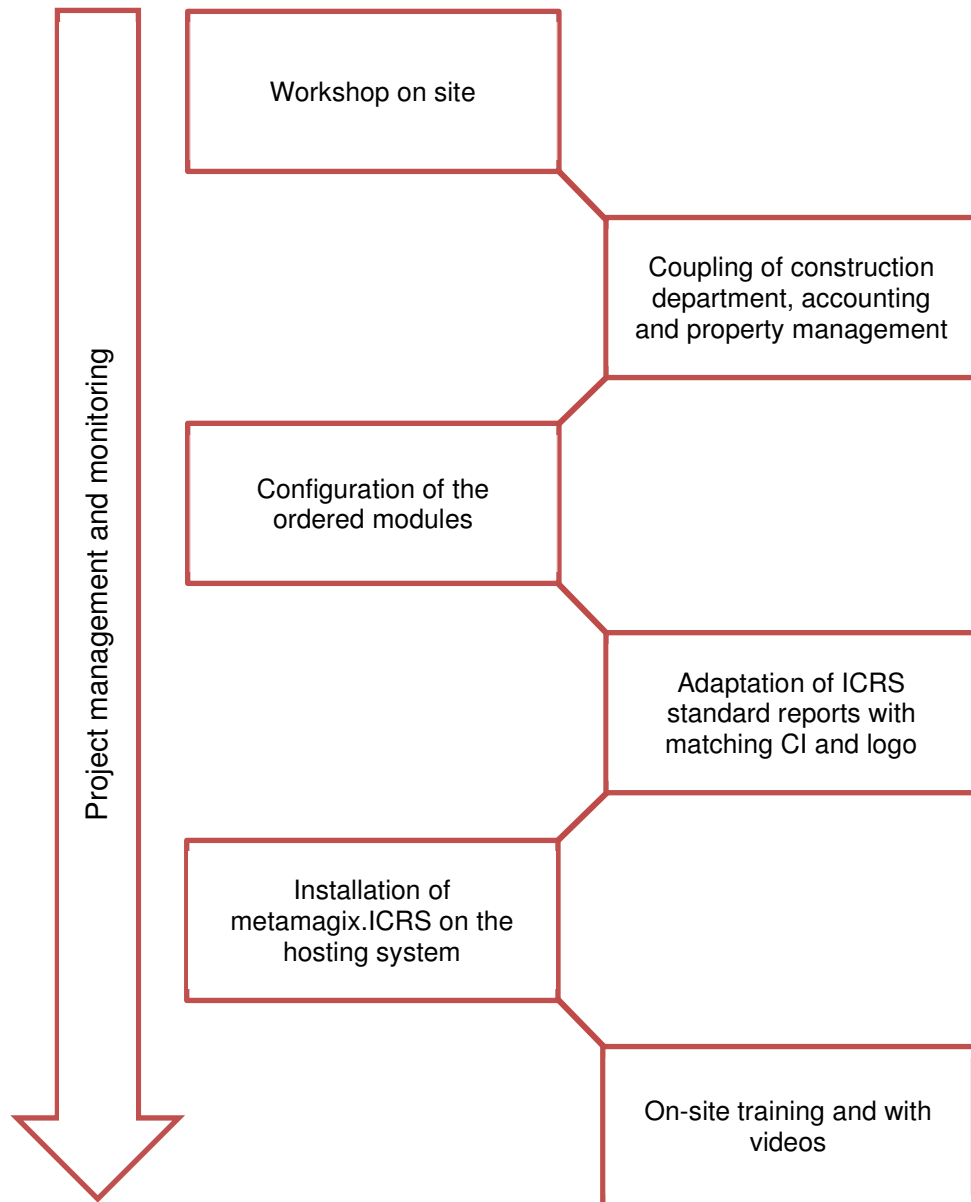
#### Synergy of the DCF and Planning & Controlling Module

In combination with the Planning & Controlling module, DCF also enables automated object planning. The forecast calculated by the DCF module can be simply transferred to customer-specific planning at the push of a button, where it can be checked and, if necessary, corrected (and commented on).

Optionally, this analysis module calculates credit cash flows based on loan types (repayment, annuity, maturity), interest options and other credit parameters. The extension calculations after the loan expires, based on various scenario parameters such as surcharges, creditworthiness, interest rate curve and much more, are also supported.

## 4. Operating concept & conclusion

It takes about four months after the order has been placed until the customized ICRS system is ready for use. The availability of the internal and external resources of ABC Ltd., especially from asset management and the external property management partners, is essential for the fast and efficient implementation. The following services and adjustments will be carried out in the course of the system implementation:



Accounting, construction department and property management are coupled with one of these methods, depending on the used software system and portfolio size:

- + Implementation of new system interface
- + An interface is already available in ICRS (e.g., SAP FI, Relion, Coor, ARK, etc)
- + ICRS standard lists are manually filled by the property managers and imported into ICRS
- + First import of the currently maintained lists and manual maintenance in ICRS from the start of operation - this method is suitable for property managers with only a few remaining objects and units

## 4.1. Server System & Client Requests

### Technical infrastructure:

The operation of ICRS is carried out for ABC Ltd. by metamagix as a hosting partner. The provision, installation and ongoing support (including backup, patches, etc.) of server hardware, power and Internet connection, operating system and database are carried out by metamagix.

The installation, configuration and maintenance of the ICRS system installed on the provided server system are also carried out by metamagix.

An ICRS system hosted by metamagix can be switched to in-house operation at any time (if the same database software is used).

### Client Requirements:

The ICRS workstations must be equipped with Microsoft Edge or a current version of Mozilla Firefox or Google Chrome and MS Office 2013 (or later).

No further software packages or browser plugins are required.

## 4.2. Conclusion

As a strategic consulting partner, we create tailor-made solutions for companies with measurable benefits in efficiency and quality.

ICRS creates a transparent and complete presentation and history of the information in the portfolio. Change in the data is traceable for users and addressees on a role basis. This facilitates communication, increases security and professionalism and has a time-saving effect.

ABC Ltd. has all the necessary information at the respective management level for optimal decision-making.



DI Randolph Kepplinger, MBA

Expertise: Content Management Systems, Databases, Parser construction, System Integration, Online Services

✉ [rk@metamagix.net](mailto:rk@metamagix.net)  
☎ +43 676 844 899 800



DI Martin Gilly

Expertise: project management, process design, corporate reporting as well as technical strengths in databases & data warehousing, software architecture and system integration

✉ [mg@metamagix.net](mailto:mg@metamagix.net)  
☎ +43 676 844 899 801